

ABSTRACT

It is an object of the present invention to provide a chemical conversion coating agent which places a less burden 5 on the environment and can apply good chemical conversion treatment to all metals such as iron, zinc and aluminum. A chemical conversion coating agent comprising:

- at least one kind selected from the group consisting of zirconium, titanium and hafnium;
- 10 fluorine; and
- an adhesion and corrosion resistance imparting agent, wherein said adhesion and corrosion resistance imparting agent is at least one kind selected from the group consisting of:
- 15 1 to 5000 ppm (metal ion concentration) of at least one kind of metal ion (A) selected from the group consisting of zinc ion, manganese ion and cobalt ion;
- 1 to 5000 ppm (metal ion concentration) of alkaline earth metal ion (B);
- 20 1 to 5000 ppm (metal ion concentration) of metal ion (C) of Group III in the periodic table;
- 0.5 to 100 ppm (metal ion concentration) of copper ion (D); and
- 25 1 to 5000 ppm (as a silicon component) of a silicon-containing compound (E).